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(54) A method of treating a meat product to reduce a microbial population in the product

(57) Described is a method of sanitizing meat product using aqueous streams having an antimicrobial composition added to the stream. Preferably, the antimicrobial composition includes a mixture of one or more carboxylic acids having up to 18 carbon atoms and one or more peroxycarboxylic acids having up to 12 carbon atoms, preferably a mixture of a C₂-C₄ peroxycarboxylic acid and a C₈-C₁₂ peroxycarboxylic acid. Also described is a novel antimicrobial composition adapted for sanitizing meat product containing a mixture of one or more C₂-C₄ peroxycarboxylic acids and one or more C₈-C₁₂ peroxycarboxylic acids and an alpha-hydroxy mono- or dicarboxylic acid.



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EUROPEAN SEARCH REPORT

Application Number

EP 99 11 6261

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The present search report has been drawn up for all claims					
Place of search	Date of completion of the search	Examiner			
THE HAGUE	26 May 2000	Lepretre, F			
CATEGORY OF CITED DOCUMENTS					
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document					
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document					



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EUROPEAN SEARCH REPORT

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Place of search	Date of completion of the search	Examiner	
THE HAGUE	26 May 2000	Lepretre, F	
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X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

LACK OF UNITY OF INVENTION
SHEET BApplication Number
EP 99 11 6261

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-24 and 25-36

A method for treating a meat product to reduce a microbial population in the meat product comprising the steps of:
 -treating the meat product with at least 2 ppm of a mono- or di-percarboxylic acid having up to 12 carbon atoms and at least 20 ppm of a carboxylic acid having up to 18 carbon atoms,
 -reducing the microbial population

an antimicrobial composition comprising:

- a mixture of percarboxylic acids having from 2 to 4 carbon atoms and percarboxylic acids having from 8 to 12 carbon atoms,
- carboxylic acid having from 3 to 6 carbon atoms
- a sequestrant and a hydrotope.

and

an antimicrobial composition comprising:

- a mixture of peroxyacetic acid and peroxyoctanoic acid in a specific ratio,
- lactic acid,
- hydrogen peroxide
- a sequestering agent.

2. Claims: 37-42

A method of treating a meat product to reduce a microbial population comprising the steps of:

- spraying an aqueous antimicrobial composition comprising at least 2 ppm of one or more carboxylic acid, percarboxylic acid or mixtures thereof, at a pressure of at least 50 psi, a temperature of up to 60 C for a contact time of at least 30 seconds
- achieving at least a one log₁₀ reduction in the microbial population.

3. Claims: 43-48

A method of treating a meat product to reduce a microbial population comprising the steps of:

- contacting meat in a closed chamber with condensing steam comprising an antimicrobial composition for 5 to 30 seconds and at a chamber temperature of 50 C to 93 C,
- quickly venting and cooling the chamber.



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 11 6261

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82